

Richard Devlin
Chair
Oregon

Ted Ferrioli
Oregon

Guy Norman
Washington

Patrick Oshie
Washington



Northwest Power and Conservation Council

Bo Downen
Vice Chair
Montana

Jennifer Anders
Montana

Jim Yost
Idaho

Jeffery C. Allen
Idaho

Council Meeting via Webinar July 15, 2020

Wednesday, July 15, 2020

Council Chair Richard Devlin brought the meeting to order at 8:33 a.m. Council Members Jeffery Allen, Jennifer Anders, Bo Downen, Ted Ferrioli, Guy Norman, Patrick Oshie and Jim Yost joined by phone. The meeting was held as a webinar due to the coronavirus health emergency. The next meeting also will be a webinar, scheduled for August 11 and 12, 2020.

Reports from Fish and Wildlife, Power and Public Affairs committee chairs

Fish and Wildlife Committee

Guy Norman, Fish and Wildlife Committee chair, recapped four items:

1. There was a presentation on Lower Snake River Compensation Plan maintenance needs. The plan includes 26 hatchery facilities, which account for 60% of the salmon and steelhead production in the Snake River Basin and about 20% of the entire production in the Columbia River basin. The Committee heard from Roy Elicker, assistant regional director for the U.S. Fish and Wildlife Service (USFWS), as well as managers from Washington Department of Fish and Wildlife, Idaho Fish and Game, Umatilla Tribe, Oregon Department of Fish and Wildlife, and the Nez Perce Tribe. USFWS is working with BPA to update their asset management plan. Member Norman reported the current budget of \$31 million has been adequate in the past, but it's not enough for nonroutine, emergency maintenance needs. Many of the facilities are over 40 years old. Managers put together a list of capital improvement needs totaling \$130 million. Member Norman listed specific needs that need to be repaired and addressed. BPA said they aren't directly Fish and Wildlife Program-funded facilities, but fall under Congressional appropriations. They are looking at a

Congressional path for funding.

2. There was a presentation on NOAA Fisheries' Life Cycle Model (LCM) by Rich Zabel, NOAA Fisheries. He provided specific information on the results of modeling for the 2020 Columbia River System Operations Draft Environmental Impact Statement (DEIS) and the Federal Columbia River Power System Biological Opinion. The LCM is used to analyze alternatives in the EIS and the National Environmental Policy Act (NEPA) process. It does not show as much benefit from increased spill as the Comparative Survival Study (CSS) model does. The benefits of juvenile transportation is looked at as well.
3. Mark Fritsch, staff project implementation manager, provided a project review update. They have been going through a categorical review of projects since 2017. They have covered wildlife research and mainstem projects. This year, they began a review of sturgeon and resident fish. There will be a report from the ISRP review in August, with a Council decision in October.
4. Staff reviewed with the Committee the latest developments in the Fish and Wildlife Program Addendum process that began in May 2018. The Council adopted Part II of the Addendum last January. The Council agreed to to extend Part I for further input. The Council held six workshops between February and May. Member Norman said the process improved the product. The Council released the revised draft of Part I public review in May, and the Council held one public hearing Staff gathered and considered with the Committee the comments on the revised draft of Part 1. The Committee made minimal changes to the Part I draft. The Committee has endorsed the current draft and will ask for Council adoption in August. A draft will be available next week for Council member review. Staff Counsel John Shurts will be putting together the findings associated with the addendum process for Council consideration after the final adoption of Part I. Member Norman also announced that the public record associated with this process is to close at the end of the July Council meeting. Shurts reminded the Council members that after that, they should not talk to anyone about Part I until the Council's review and adoption is complete.

Power Committee

Pat Oshie, Power Committee Chair, had three items to share:

1. The Committee reviewed the 2021 Power Plan timeline and provided a more-detailed analysis of the work accomplished and what is ahead. They are transitioning from inputs to results in key areas such as resource strategies and system requirements. Staff will have a lot to do for the August meeting, Member Oshie said. There was an important discussion around the role of the advisory committees, and he said he's satisfied that disputes are resolved in them. Also, the Council is following the requirements of the Federal Advisory Committee Act and the provisions on advisory committees in the Council's own statute.

Looking at the Power Plan process, the Committee examined staff proposals to modify the format for the plan and especially its supporting materials. Rather than attach PDF files, staff proposes to use web pages and links to make the document shorter and easier to navigate. Concerns were raised about the integrity of the document, but there also are advantages in making the plan more user-friendly. There also was a discussion on how decisions are made to use information in the plan. Member Oshie said it's a process issue that will be run by the Council's attorneys. Part of that is deciding what is key information and what is background information.

2. There was a discussion on developing, writing, reviewing and publishing the Power Plan.
3. The Committee is considering a stakeholder survey regarding the use of the previous Power Plan's content and supporting materials.

Public Affairs Committee

Jeffrey Allen, Public Affairs Committee chair, shared four items:

1. The Committee discussed how to keep Congressional relationships high-functioning during this pandemic in light of this summer's Congressional Tour cancellation. They plan to draft a briefing booklet despite the cancellation to highlight the Council's accomplishments and developments. They talked about exploring if the Council would be interested in virtual meetings with Congressional staff. They plan on holding a mini tour for the Idaho Congressional staff using all precautions.
2. Recent U.S. Fish and Wildlife guidance on avian predation left out the Northwest. The Committee called that to USFW's attention and they put the Northwest back in. We're looking at a letter the Council can get behind, Member Allen said.
3. The Committee is looking at different ways to raise the Council's visibility, such as restructuring the website, having the new executive director appear at various venues, and increasing participating in conferences.
4. Regarding Council Meetings, there was some discussion that staff and public affairs could improve making presentations, and give people tips on appearing before the Council.

1. Briefing on NW Natural's Low Carbon Pathway

Before the panel began, Member Devlin said that the Council hired NW Natural's Bill Edmonds to become the Council's new executive director. Edmonds will start next month. Member Devlin wanted to state for the record that today's presentation was scheduled for March, but was delayed due to the pandemic.

Steven Simmons, staff principal analyst, introduced a panel of NW Natural representatives: Kathryn Williams, vice president of public affairs; Ryan Bracken, principal economist; Anna Chittum, renewable energy director; Mary Moerlins, corporate citizenship manager; and Tammy Linver, senior director of strategic planning.

Williams recalled she last appeared before the Council in 2017 and shared the utility's goal of a 30% carbon savings by 2035. Today, the utility plans to be carbon free by 2050.

She said NW Natural delivers more energy than any other utility in Oregon and it has one of the tightest, newest systems in the country. Williams referred to a pie chart showing that 36% of Oregon's greenhouse gas (GHG) emissions comes from transportation, 30% from electricity, 22% from fuels and waste, and 12% from natural gas.

Moerlins said upstream emissions are not unique to natural gas. The full impact of emissions is key to making informed decisions, so there's a need to examine a true, side-by-side comparison. NW Natural gets two-thirds of its natural gas supply from Western Canada and one-third from the Rocky Mountain states. Those suppliers are heavily regulated so their emissions shouldn't be lumped in with the national average. She discussed the nature of methane emissions. Looking at all GHG, gas and petroleum emissions contribute about 3% of the nation's emissions. The good news is that innovation is happening to reduce climate impacts. A group of more than 20 companies in the supply chain, including NW Natural and Williams Pipeline, are working to reduce emissions. Collectively, the group overshot its goal of reducing emissions to 1% or less, she said.

Ryan Bracken discussed the process and components of NW Natural's Northwest Deep Decarbonization Study, completed about two years ago. They worked with E3 on the study, which focused on energy use in buildings in Washington and Oregon. The emissions from the direct use of natural gas is constant between 8% and 12%. It's less than emissions from electricity or transportation. He discussed the trajectory of natural gas usage and peak load driven by extreme weather. In the Pacific Northwest, electricity use is moving toward a summer peak. All of the air conditioning load is served by electricity, but less than one-third of space heating needs are served by electricity. The E3 study estimated that 68% of regional space heating needs are served by the direct use natural gas, and less than 30% is currently served by electricity. The Northwest is still a winter peaking region and that needs to be considered when decarbonizing, Bracken said. The electrification of space heating will increase the peak on the system. In addition, the region leads the nation in electric resistance heating. The new loads from the electrification of space heating will, net of displaced resistance load, be incremental to existing peak demands. BPA can deliver 16GW to serve peak. Getting rid of natural gas would increase peak by 32GW.

Member Anders referred to a pie chart and asked what's in the "other" category of emissions. Bracken replied much of it is waste energy and other processes. Some of it is

propane, heating oils, and emissions related to industrial processes and wastewater treatment plants.

Member Anders remarked that some of that could contribute to renewable natural gas. Bracken agreed. Member Devlin said some of the “other” emissions is attributable to agriculture.

Anna Chittum defined renewable natural gas (RNG) as pipeline-quality gas from existing landfills that is otherwise being vented or flared. It has similar climate benefits as wind and solar, when looking at the entire lifecycle. RNG is 97% methane in NW Natural’s system. She said their customers are looking for a low-carbon product. RNG is a way to hedge against future carbon costs and they are looking at a tariff to deliver greater volumes of RNG to customers. It’s a way of dealing with waste products and turning them into a revenue opportunity, she said. It can also mitigate the need to secure pipelines with additional capacity because it is a nearby resource.

Member Oshie asked about delivery and if there’s a tariff in place. Who is responsible for processing the gas before it gets to your system? Does the producer bear the cost or NW Natural? Chittum replied that prior to the passage of Senate Bill 98, developers were making the investment in the process of gathering, cleaning and delivering RNG to NW Natural. Now, due to SB98, NW Natural, Avista and Cascade can invest in the cleaning equipment and interconnect for customers.

Member Oshie asked about cost parameters. Chittum said in their integrated resource plan, they’ve tried to reflect project archetypes. The cheapest have been landfills where the gas collection is already in place. Development costs have been \$5–\$6 per MMBTU. Others have been expensive animal manure projects where it’s not centrally collected. Some of those can be \$25 per MMBTU. We’re working to figure out the lower cost options, she said. This is a fairly nascent industry in the U.S. She offered to provide more background later.

Member Devlin asked if NW Natural is working with municipalities in upgrading waste treatment plants to utilize those potential resources. Chittum said they work with cities and counties. On wastewater and solid waste treatment, we work to be engaged whenever a city is making a significant decision, she said. Metro is looking at what do to with food waste. That’s the type of process where we’re informing them of costs and potential.

There are 115 RNG facilities operating in the U.S. and about 100 more in the works. There is a robust market for selling RNG into the transportation clean fuels program, she said.

Oregon Department of Energy undertook an inventory of the RNG potential about two years ago. Washington did something similar. They found 48 BCF of potential, which is about the gas consumption of Oregon’s residential customers. Looking at Oregon’s RNG supply

sources, landfill gas represents the lowest hanging fruit, but wood and agricultural residues make up about 74% of the potential.

ICF did a study on the technical potential for the U.S. It totals about 88% of the current direct use of all natural gas. Not all of it is economically attainable, but it represents a huge potential to decarbonize the pipeline, Chittum said.

Chittum reviewed Oregon SB98, calling it a powerful piece of legislation. Prior to that legislation, natural gas utilities had to procure the least-cost, least-risk resource. SB98 provides a pathway for utilities to procure RNG and deliver it to their customers. There's a cap on what we can spend on RNG each year, she said, and outlined some of the projects they're involved in to expand RNG resources.

The power-to-gas process was discussed. It takes excess wind, solar, or hydro and converts it to renewable hydrogen for use in NW Natural's pipeline system. The most compelling aspect is the seasonal storage opportunity. It is taken during the spring and is converted to a gas that can be stored. Some will be injected into the NW Natural pipeline. They are pursuing a 2 MW project in Eugene in partnership with EWEB. There was a discussion of storing renewable energy.

Local distribution companies in Europe have been decarbonizing pipelines longer. NW Natural's team went over and met with utilities, regulators and policy agencies from France, Germany and the U.K. They all said that in the march to electrify everything, they found some uses were better suited to RNG, such as heating and industrial uses. So establishing that at the policy level was really important. They also are looking at hydrogen and synthetic methane.

NW Natural has been working on the interconnection of three RNG projects. There are 1,000 RNG interconnections in France today.

Chittum said they embrace the need to get deep reductions in carbon emissions. The best way to get there is with unbiased analysis that looks at cost impacts for everyone. By pairing the electric system with the gas system, we'll get there faster, she said. The Europe trip underlined that we can get to carbon free by 2050. We need get more aggressive on energy efficiency as well.

Member Oshie asked about regional geologic storage opportunities in addition to Puget Sound Energy's Jackson Prairie and NW Natural's Mist. Chittum replied that there is a significant salt cavern project in Utah. Those formations seem to be well-suited to hydrogen. Because Mist is more porous, it is less suited to hydrogen, but it's better for synthetic methane. Also, there is a small amount in Southeast Washington that Pacific Northwest National Laboratory (PNNL) is looking at.

Member Allen asked how will the fact that California is banning gas lines in new developments figure in? Chittum replied it's been an opportunity to educate cities about the gas system and what it could do for them, especially if there are waste plants and landfills. There's strong interest to bring those projects online and to use that energy locally. Mary Moerlins said it's a challenge, and it's important to call it out.

Bracken said cost and emissions benefits of electrification is dependent upon the end use and where you are. In California, if your system is built for the summer, and you electrify for winter needs, it's not going to drive infrastructure investment. But it can in the Northwest. So the cost of electrification depends where it is.

Member Devlin said the figure theoretically for storage is 14,400 MWh per day. It's being evaluated.

2. Briefing by Kelly Susewind, director, Washington Department of Fish and Wildlife

Stacy Horton, Washington State staff, introduced Kelly Susewind, director, Washington Department of Fish and Wildlife (WDFW). He was joined on the phone by Michael Garrity, also with WDFW.

Susewind provided an overview of WDFW activities. The department manages about one million acres of land. They are on a mission to increase their relevancy. While they are known as the hunting and fishing agency, they also need to be a conservation agency.

Susewind talked about the department's governance structure. The department:

- preserves and restores aquatic habitat and species;
- acquires and manages lands;
- preserves and restores terrestrial habitat and species;
- manages fishing opportunities;
- produces hatchery fish;
- manages hunting opportunities; and
- provides and facilitates recreational opportunities.

Susewind outlined the department's program organization, regional organization and its economic impact. The WDFW supports nearly \$5 billion in activity. Susewind said fishers and hunters think they're paying for everything the WDFW does, but it's really about a quarter of its budget. Susewind said the WDFW gets about \$3.8 million in funding from BPA and \$7 million from other entities.

The hot topics facing the department include COVID-19, budget cuts, wolves and southern resident killer whales. On COVID-19, they have worked to keep people from infected areas from coming out to the rural areas, so they shut down hunting and fishing. It hasn't been popular, but now it has been reopened. He said they have put a lot of energy into managing wolves. Everything we do is incredibly controversial, he remarked. People either love or hate them.

Susewind talked about the collaborative approach they're taking to restoring salmon runs. He said restoration projects include:

- Fish screening program
- Research, monitoring and evaluation
- Resident fish program
- Predation management
- Wildlife mitigation

Susewind said he appreciates the Council for getting input from tribes and other stakeholders into its program amendment process.

He next talked about estuary restoration and efforts to make Mill Creek more fish friendly. He outlined fish screening efforts to keep fish out of irrigation ditches. There's a lot of inspection and monitoring that goes along with it, he said.

The department's salmon and steelhead monitoring is complemented by tribal work.

Above Grand Coulee, they established the Sherman Creek hatchery and are protecting native redband trout. They also are working to reintroduce fish above Grand Coulee for the first time in 80 years.

On predation, Susewind said 10% to 40% of returning adults are consumed by pinnipeds. With revisions to the Mammal Protection Act, they hope to have a permit by August to remove 300–500 California sea lions. Avian predation has a particularly tough impact on steelhead. In addition they are netting northern pike and are working to lower their number in Lake Roosevelt. He worries it's just a matter of time before they start spreading. The pikeminnow bounty program is the longest-running predation control program. About 4 million have been removed since 1991.

Susewind listed additional collaborative efforts. He said the Yakima Basin integrated plan is a true win/win and listed the benefits of the water conservation project. He hopes to emulate this project for the Walla Walla Basin. Another win/win for hydro and fish is the flexible spill agreement.

WDFW's emerging opportunities include extending the memorandum of understanding with BPA, the four state post-NEPA process and wildlife areas.

Member Norman thanked the director and said he can appreciate the breadth of the challenges at WDFW.

3. Presentation on Hatchery Story Map

Mark Fritsch, project implementation manager, provided background on how the website came together and who was involved. He said it meets the needs of the Council's asset management plan, and builds upon the hatchery and fish screen inventory. Fritsch guided the members through the structure of the online story map.

In the story section, they want to create infographs and sound bites on the importance of hatcheries, and how they fit into conservation and mitigation efforts. There are pages to learn about programs and then those are broken into particular hatcheries.

In the data section, they'll look at the accomplishments to date. There will be a program tracker for biologists, as well as simplified sections for the general public. Other programs are listed, such as the trout ponds. Fritsch anticipates needing another \$50,000 in funding to complete it. It is slated to go public at the end of August.

Member Ferrioli observed that there's a large contingent who believe that all hatcheries are bad, that we need to go to an all-wild fish regime. When we encounter those attitudes, we ask who operates hatcheries, their purpose, location, how long have they been in operation, and what was the purpose for locating them where they are? This will educate people on the role of hatcheries in the restoration of wild salmon runs. This online story map helps provide that service. It's one of the better examples of the Council's outreach mandate.

Member Norman said this site provides an opportunity to look at program hatcheries as they fit into the whole region. The target audiences include Congressional representatives. A lot of managers have been interested in helping with it.

Member Downen said it is a great tool. He asked if it could be used by a manager, or are they getting their information elsewhere. Fritsch replied that having manager buy-in is essential. We need to be cautious to create a resource that will have buy-in from everyone, he said. There are parts of this that help implement Part I of the Amendment.

4. Presentation on Grant PUD and the Hanford Reach Fall Chinook Protection Program

Stacy Horton said that Hanford Reach is a beautiful stretch of the Columbia River and a key area for salmon. The Hanford Reach Fall Chinook Protection Program calls for specific measures to protect reds and juveniles. She introduced Tom Dresser and Peter Graf, Grant County PUD; and Paul Hoffarth, Washington Department of Fish and Wildlife (WDFW).

Dresser talked about the collaborative relationship developed in the implementation of the program. Since the 1970s, many parties came together after many difficult discussions. Over time, they have been able to find a balanced approach to enhance and protect the fall Chinook runs. It is one of the most productive in the continental U.S., if not worldwide. The approach also allows Grant to provide affordable energy to its customers, so it's a win/win, he said.

The Hanford Reach Fall Chinook Protection Program (HRFCPP) is an agreement between Grant, Chelan, and Douglas PUDs, Bonneville, NOAA Fisheries, WDFW and the Confederated Tribes of the Colville Indian Reservation (CCT). He said NOAA, CCT, Yakama Tribes, WDFW and U.S. Fish and Wildlife Service have provided critical reviews of the program. Also they receive great information from CRITFC. Alaska Fish and Game was involved early on.

Dresser discussed a map of the hydro projects in Washington and traced a timeline of the Hanford Reach project.

Graf covered the design and operation of the protection program. Spawning is influenced by upstream operations. Flows are stopped so they can count redds. He talked about the flow pattern in the Hanford Reach and the challenges at Vernita Bar. Flow protections are guided by the fall Chinook salmon life cycle. He described how salmon spawn and the factors involved in finding a "sweet spot" for spawning locations and flow levels to keep the redds covered. The goal is to target flows appropriately. Salmon spawn during daylight hours, so they boost flows at Priest Rapids at night.

Graf talked about emergence and rearing, and keeping the flow changes minimal to protect the fish. They are trying to reduce large fluctuations on a daily basis. It's a complex program that requires constant maintenance. As a fish biologist, it's an interesting and enjoyable aspect of the program, he said.

The first few years were rough, but we've gotten a lot better and now we're hitting our targets, he said. Research has found it provides benefits to the fish. Survival estimates increased with flow protections.

Hoffarth said they have averaged 50,000 adult returns dating back to 1964. In the last 10 years, they have averaged 100,000. In addition, 88 percent of the fish spawning are natural origin. They are forecasting a return of 92,000 adults next year.

He said 40 percent of Southeastern Alaskan and Canadian fisheries are Hanford Reach fish, Hoffarth said. "We support sport, tribal and commercial fisheries. We provide opportunities that would not be there without proper management of the Hanford Reach."

Member Allen asked about work to limit avian predation. Dressler talked about efforts to dissuade and haze a Caspian tern colony.

Member Norman recalled that in the mid-1980s, he was out in the Hanford Reach chasing down fall Chinook in waders. The program is still going on with tribal relationships. Prior to the flow agreement, he observed juvenile Chinook in high and low flows. He appreciates the impact of reducing flow fluctuations. Studies in the Lewis River came up with same results.

Member Norman asked, in terms of the rearing flow agreement, when does that end? Dresser replied there's no sunset date. Member Norman meant seasonally. Graf said the timing is determined by temperature unit. If it's a warm year, it starts earlier. In a cold year, it starts later. It generally takes place mid-March to mid-June.

Member Norman asked if the end date fluctuates as well. Yes, Graf replied, when spawning starts, we set the clock and monitor temperatures.

Council Business

Northwest Power and Conservation Council Motion to Adopt the Minutes of the May 12-13, 2020, Council Meeting and the June 17, 2020, Council Meeting

Vice-Chair Downen moved that the Council approve for the signature of the Vice-Chair the minutes of the May 12-13, 2020, Council Meeting held in Portland, Oregon, via webinar, and the June 17, 2020, Council Meeting held in Portland, Oregon, via webinar as presented by staff.

Member Anders second.
Motion approved without objection.

Northwest Power and Conservation Council Motion to Appoint Dana Infante and Kenneth Rose to the Independent Scientific Review Panel for First Terms from October 1, 2020, to September 30, 2023

Erik Merrill provided brief background on the credentials of Dana Infante and Kenneth Rose.

Vice-Chair Downen moved that the Council appoint Dana Infante and Kenneth Rose to the Independent Scientific Review Panel for terms from October 1, 2020, to September 30, 2023, as presented by Mr. Merrill.

Member Norman second.
Motion passed without objection.

Northwest Power and Conservation Council Motion to Approve the Staff Recommended Proposed Membership to the Resource Adequacy Advisory Committee

Fazio said Council approved charter of the Resource Adequacy Advisory Committee and asked the Council to approve the listed members.

Vice-Chair Downen moved that the Council approve the appointment of the people recommended by staff to be members of Resource Adequacy Advisory Committee's steering and technical committees.

Member Yost second.
Motion passed without objection.

Public comment

No one signed up for public comment.

Member Devlin said many had hoped that COVID-19 would have turned around. This marks our fourth webinar meeting. Nothing indicates we can reopen our meetings, so it looks like we'll be doing webinars for quite a long time.

Chair Devlin adjourned the Council Meeting at 12:36 p.m.

Approved August _____, 2020

Vice-Chair